

IN THE CLAIMS:

Substitute the following claims for the pending claims having the same numbers.

1. (previously presented) A well system, comprising:

a device which expands into a space in a borehole, the space being at least partly defined by a castable material disposed radially between and in contact with the borehole and the device,

wherein the device comprises an annular element disposed on a tubular structure in the borehole and including an expandable material which extends from a retracted state to an expanded state in response to contact with a fluid in the well system.

2. (previously presented) The system of claim 1, wherein the space is at least partly defined by a wall of the borehole.

3. (previously presented) The system of claim 1, wherein the space is at least partly defined by the tubular structure.

4. (previously presented) The system of claim 1, wherein the space at least partly holds the fluid.

5. (currently amended) The system of claim 1, wherein the fluid is disposed at least partially in the space, and wherein the expandable material extends from the retracted state to the expanded state in reaction to exposure to the fluid in the space.

6. (previously presented) The system of claim 1, wherein the castable material comprises hardened concrete.

7. (previously presented) The system of claim 1, wherein the space comprises an elongated channel defined by at least the castable material, the tubular structure and the borehole wall.

8. (previously presented) A method of sealing a space in a borehole, the space being at least partly defined by a castable material disposed in the borehole, the method comprising the steps of:

disposing on a tubular structure at least one annular element comprising an expandable material capable of extending from a retracted state to an expanded state;

installing the tubular structure in the borehole;

then providing the castable material into a volume defined by a wall of the borehole and an outer surface of the tubular structure, the castable material extending at least partially circumferentially about the annular element; and

extending the expandable material into contact with the wall of the borehole.

9. (previously presented) The method of claim 8, wherein the disposing step further comprises disposing a plurality of the annular elements at spaced intervals along a length of the tubular structure.

10. (previously presented) The method of claim 8, wherein the expandable material is adapted to extend from the retracted state to the expanded state as a reaction to exposure to a fluid in the space.

11. (previously presented) The method of claim 8, wherein the expandable material extends into the space after the castable material has hardened.

12. (previously presented) The method of claim 8, wherein the space comprises an elongated channel defined by at least the castable material, the tubular structure and the borehole wall.

13. (previously presented) A method of sealing an annulus in a borehole, the method comprising the steps of:

positioning an expandable material on a tubular structure;
installing the tubular structure in the borehole, the annulus being formed between the tubular structure and the borehole;

then flowing a castable material into the annulus, the castable material partially displacing a fluid in the annulus, and the castable material being disposed radially between the expandable material and the borehole, but leaving at least one space containing the fluid in the annulus; and

expanding the expandable material into the space in response to contact between the expandable material and the fluid.

14. (previously presented) The method of claim 13, wherein the positioning step further comprises positioning a plurality of sleeves on the tubular structure, each of the sleeves including the expandable material.

15. (previously presented) The method of claim 13, wherein the expanding step is performed in reaction to exposure of the expandable material to the fluid.

16. (previously presented) The method of claim 13, wherein the expanding step is performed at least partially after the castable material has hardened in the annulus.

17. (previously presented) The method of claim 13, wherein the flowing step further comprises leaving the space so that the space is bounded at least partially by the castable material.

18. (previously presented) The method of claim 13, wherein the flowing step further comprises leaving the space so that the space is bounded at least partially by the borehole.

19. (previously presented) The method of claim 13, wherein in the positioning step the expandable material comprises a swellable material.

20. (previously presented) The method of claim 13, wherein the flowing step further comprises contacting a portion

of the expandable material with the castable material, and
contacting another portion of the expandable material with the
fluid in the space.